

Physics @ WBS Year 13 Roadmap

Subject Aim: To build on Year 12 knowledge in Physics and to understand and explore the topics of further mechanics, electromagnetic fields, particle physics, nuclear radiation, thermodynamics, space, gravitational fields and oscillations in depth. To be able to make links between topics, to confidently use mathematical, problem solving and practical skills and to work independently.

TTP & Autumn Term	Topic 1 – Further Mechanics
	You will study Momentum and Circular Motion. P 8 – 30 in the Edexcel textbook
	Topic 2 – Electromagnetic Fields
	In this topic you will study Electric fields, Capacitors, Magnetic Fields and Electromagnetic Induction. P 32 – 78 in the Edexcel textbook
	Topic 3 – Particle Physics
	You will study The Particle Zoo, Particle interactions and conserved quantities, Particle accelerators and detectors. P 80 – 122 in the Edexcel textbook
	Topic 4 - Thermodynamics
Spring Term	In this topic you will study Heat and Temperature, Internal Energy, Kinetic Theory and Ideal Gases. P 124 – 140 in the Edexcel textbook
	Topic 5 – Nuclear Physics
	You will study Alpha, Beta and Gamma radiation, Half-life, Fission and Fusion. P 142 – 160 in the Edexcel textbook
	Topic 6 - Space
Summer Term	In this topic you will study the Life cycle of stars, Hubble, Red shift and Doppler. P 172 – 196 in the Edexcel textbook
	Topic 7 – Gravitational Fields
	You will study Radial fields, the Universal Law of Gravitation and Orbital motion. P 162 – 170 in the Edexcel textbook
	Topic 8 - Oscillations
	You will study the Basics and Mathematics of Simple Harmonic Motion, Resonance and Damping P 198 – 234 in the Edexcel textbook

Assessment

There will be formal Key Assessments throughout Y13. You will be given the page references for the textbook that you need to use 2-3 weeks prior to the assessment. You should also use your SIS to help you to prepare. You will be expected to revise independently outside of lesson time. The second, third and fourth assessment in Year 13 will be mock exams.

Key Assessment 1	
Key Assessment 2	
Key Assessment 3	
Key Assessment 4	

Homework and Revision

Homework is set by your class teacher on Brightspace..

Announcements regarding Key Assessments will be made by the Head of Physics on Brightspace several weeks before the test date. You will also be told about this in lessons.

You are strongly advised to revisit your notes often throughout the year to consolidate your learning and to make assessment preparation as straightforward as possible.

Enrichment themes

We will highlight links to careers in Physics and Engineering throughout the year. You are encouraged to approach your Physics teachers for further advice on pursuing Physics at a higher level.

Where Next?

University degree, higher level Apprenticeship or gap year – enjoy!